

CLAIMS

1. A transformant of *Streptomyces mobaraensis*, comprising a structural gene of transglutaminase derived from *Streptomyces mobaraensis* and a promoter and a terminator acting on the structural gene, which are externally introduced.
2. The transformant of *Streptomyces mobaraensis* according to claim 1, wherein the promoter is a promoter of transglutaminase derived from *Streptomyces mobaraensis*.
3. The transformant of *Streptomyces mobaraensis* according to claim 1, wherein the terminator is a terminator of transglutaminase derived from *Streptomyces mobaraensis*.
4. The transformant of *Streptomyces mobaraensis* according to claim 1, wherein the structural gene comprises a sequence set forth in SEQ ID NO: 1 or a sequence obtained by modifying a part of the sequence, the sequence encoding transglutaminase.
5. A transformant of *Streptomyces mobaraensis* comprising a DNA fragment having an externally introduced sequence set forth in SEQ ID NO: 2 or sequence obtained by modifying a part of the sequence, the sequence encoding transglutaminase.
6. The transformant of *Streptomyces mobaraensis* according to claim 1, which is a transformant of *Streptomyces mobaraensis* S-8112 or a mutant strain thereof.
7. A process for producing transglutaminase, comprising the steps of: culturing transformant of *Streptomyces mobaraensis* comprising a structural gene of transglutaminase derived from *Streptomyces mobaraensis* and a promoter and a terminator acting on the structural gene, which are externally introduced, under the conditions where the structural gene can be expressed; and collecting the produced transglutaminase.
8. The process for producing transglutaminase according to claim 7, wherein the promoter is a promoter of transglutaminase derived from *Streptomyces mobaraensis*.

9. The process for producing transglutaminase according to claim 7, wherein the terminator is a terminator of transglutaminase derived from *Streptomyces mobaraensis*.
10. The process for producing the transglutaminase according to claim 7, wherein
5 the structural gene comprises a sequence set forth in SEQ ID NO: 1 or a sequence obtained by modifying a part of the sequence, the sequence encoding transglutaminase.
11. The process for producing transglutaminase according to claim 7, wherein the
transformant of *Streptomyces mobaraensis* comprises a DNA fragment having an
10 externally introduced sequence set forth in SEQ ID NO: 2 or sequence obtained by modifying a part of the sequence, the sequence encoding transglutaminase.
12. The process for producing transglutaminase according to claim 7, wherein the
transformant of *Streptomyces mobaraensis* is a transformant of *Streptomyces*
15 *mobaraensis* S-8112 or a mutant strain thereof.
13. A transformant of *Streptomyces lividans* comprising a structural gene of
transglutaminase derived from *Streptomyces mobaraensis*, and a promoter and a
terminator acting on the structural gene, which are externally introduced.
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14. The transformant of *Streptomyces lividans* according to claim 13, wherein the
promoter is a promoter of transglutaminase derived from *Streptomyces mobaraensis*.
15. The transformant of *Streptomyces lividans* according to claim 13, wherein the
25 terminator is a terminator of transglutaminase derived from *Streptomyces mobaraensis*.
16. The transformant of *Streptomyces lividans* according to claim 13, wherein the
structural gene comprises a sequence set forth in SEQ ID NO: 1 or a sequence obtained
by modifying a part of the sequence, the sequence encoding transglutaminase.
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17. A transformant of *Streptomyces lividans* comprising a DNA fragment having
an externally introduced sequence set forth in SEQ ID NO: 2 or sequence obtained by
modifying a part of the sequence, the sequence encoding transglutaminase.
- 35 18. The transformant of *Streptomyces lividans* according to claim 13, which is a

transformant of *Streptomyces lividans* 3131 or a mutant strain thereof.

19. A process for producing transglutaminase, comprising the steps of:
 - culturing transformant of *Streptomyces lividans* comprising a structural gene of transglutaminase derived from *Streptomyces mobaraensis*, and a promoter and a terminator acting on the structural gene, which are externally introduced, under the conditions where the structural gene can be expressed; and
 - collecting the produced transglutaminase.
- 10 20. The process for producing transglutaminase according to claim 19, wherein the promoter is a promoter of transglutaminase derived from *Streptomyces mobaraensis*.
- 15 21. The process for producing transglutaminase according to claim 19, wherein the terminator is a terminator of transglutaminase derived from *Streptomyces mobaraensis*.
- 20 22. The process for producing transglutaminase according to claim 19, wherein the structural gene comprises a sequence set forth in SEQ ID NO: 1 or a sequence obtained by modifying a part of the sequence, the sequence encoding transglutaminase.
- 25 23. The process for producing transglutaminase according to claim 19, wherein the transformant of *Streptomyces lividans* comprises a DNA fragment having an externally introduced sequence set forth in SEQ ID NO: 2 or sequence obtained by modifying a part of the sequence, the sequence encoding transglutaminase.
24. The process for producing transglutaminase according to claim 19, wherein the transformant of *Streptomyces lividans* is a transformant of *Streptomyces lividans* 3131 or a mutant strain thereof.